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EXAMINER

PARTON, KEVIN S

ART UNIT

PAPER NUMBER

2153

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/445,843

Applicant(s)

LINDBO, SVERKER

Examiner

Kevin Parton

Art Unit

2153

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10, 11. 6) ☐ Other:

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the claims are included in the specification twice. The two sets are identical so the final set has been amended according to pre-amendments and is the set that is examined.

Appropriate correction is required.

2. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeSimone et al. (USPN 5,787,470) in view of Armbruster et al. (USPN 6,243,760).

5. Regarding claim 1, DeSimone et al. (USPN 5,787,470) teach a system for caching internet information to increase web performance with means for:

- a. Deriving information sent to an end user from an Internet content provider based upon an information request from the end user (figure 1; column 1, lines 30-35). Note that in the reference, the system uses a standard web cache with data being requested and cached as it is returned to the requesting user.

- b. Distributing the information to a set of distributed cache servers (figure 1; column 4, lines 27-30, 32-33, 38-44). Note that in the reference, a first cache keeps a record of what data has changed and forwards this to another cache and can distribute the cached data.

Although the system disclosed by DeSimone et al. (USPN 5,787,470) shows substantial features of the claimed invention, it fails to disclose means wherein the set of distributed cache servers are geographically separated.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached data to geographically distributed servers (column 5, lines 5-12). Note that the distribution of data can be based on the location of the users and their cultural and linguistic characteristics.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the geographical distribution of data. The purpose of the invention is to increase the performance for end users by putting information on a cache directly connected to them in their route to retrieve data. Geographically distributing data allows for the least amount of physical distance between the end user and the cache thus benefiting the system by further reducing retrieval time.

6. Regarding claim 2, DeSimone et al. (USPN 5,787,470) teach all the limitations as applied to claim 1. They further teach means wherein the deriving step is performed in connection with a cache server serving the end user, the end user being located in a geographical region served by the a cache server (figure 1). Note that in the reference, the ISP wherein cache servers are located can be a single geographical area.

7. Regarding claim 3, DeSimone et al. (USPN 5,787,470) teach all the limitations as applied to claim 2. They further teach means comprising storing the information in the a cache server (figure 1; column 1, lines 30-35). The local cache operates as a standard web cache, when a user makes a request, the information is located and then cached as it is provided back to the end user.

8. Regarding claim 4, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 3) shows substantial features of the claimed invention, it fails to disclose: means wherein storing the information in the cache server only if the content provider is located outside the region.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached data wherein storing the information in the cache server only if the content provider is located outside the region (column 5, lines 5-12). Note that in the reference, the distribution of data can be done according to any set of rules. The determination of when data will be geographically distributed can be changed and would be applicable in this situation.

Art Unit: 2153

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the distribution of data only if the content provider is located outside the region. This allows for the most pertinent information to be cached and benefits the system by only using memory and cache function for data that can enjoy an appreciable increase in retrieval speed by being cached.

9. Regarding claim 5, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 3) shows substantial features of the claimed invention, it fails to disclose: means wherein storing the information in the cache server only if the content provider is located inside the region.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached data wherein storing the information in the cache server only if the content provider is located inside the region (column 5, lines 5-12). Note that in the reference, the distribution of data can be done according to any set of rules. The determination of when data will be geographically distributed can be changed and would be applicable in this situation.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the distribution of data only if the content provider is

Art Unit: 2153

located inside the region. This allows for the most pertinent information to be cached and benefits the system by only using memory and cache function for data that would most likely be of direct interest to the end user.

10. Regarding claim 6, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 2) shows substantial features of the claimed invention, it fails to disclose means for performing the distributing step only if the content provider is located outside the region.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached data with means for performing the distributing step only if the content provider is located outside the region (column 5, lines 5-12). Note that in the reference, the distribution of data can be done according to any set of rules. The determination of when data will be geographically distributed can be changed and would be applicable in this situation.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the distribution of data only if the content provider is located outside the region. This allows for the most pertinent information to be cached and benefits the system by only using memory and cache function for data that can enjoy an appreciable increase in retrieval speed by being cached.

Art Unit: 2153

11. Regarding claim 7, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 2) shows substantial features of the claimed invention, it fails to disclose means for performing the distributing step only if the content provider is located inside the region.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached data with means for performing the distributing step only if the content provider is located inside the region (column 5, lines 5-12). Note that in the reference, the distribution of data can be done according to any set of rules. The determination of when data will be geographically distributed can be changed and would be applicable in this situation.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the distribution of data only if the content provider is located inside the region. This allows for the most pertinent information to be cached and benefits the system by only using memory and cache function for data that can enjoy an appreciable increase in retrieval speed by being cached.

12. Regarding claim 8, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 1) shows substantial features of the claimed invention, it fails to disclose

Art Unit: 2153

means for distributing the information to the set of geographically distributed cache servers using multicast communication.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached information with means for distributing the information to the set of geographically distributed cache servers using multicast communications (column 5, lines 14-17). Note that in the reference, a multicast protocol is used to make sure the regional caches get synchronized information.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the use of multicast communications for the distribution of information. According to Armbruster et al. (USPN 6,243,760) multicast communication benefits the system by “ensuring accurate and synchronized delivery” to all destination servers (column 5, lines 17-18).

13. Regarding claim 9, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 8) shows substantial features of the claimed invention, it fails to disclose means for distributing the information to the set of geographically distributed cache servers using a satellite link.

Art Unit: 2153

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached information with means for distributing the information to the set of geographically distributed cache servers using a satellite link (figure 2; column 2, lines 39-41).

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the use of satellite communications to distribute information. This provides the opportunity to distribute the information more easily overseas and to widely disparate areas. This benefits the system by allowing for the exchange of information regardless of the availability of telephone or other lines greatly increasing the geographic reach.

14. Regarding claim 10, DeSimone et al. (USPN 5,787,470) (USPN 6,243,760) teach all the limitations as applied to claim 1. They further teach means for only distributing the information based upon the outcome of a rule determining, for each derived piece of information, whether or not it is to be distributed to the set of geographically distributed cache servers (column 4, lines 27-30). Note that in the reference, information is distributed based on the previous interests of a connected cache and its users. This is a rule that can be changed to suit the situation.

15. Regarding claim 11, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 1) shows substantial features of the claimed invention, it fails to disclose

Art Unit: 2153

means wherein the set of geographically distributed cache servers serve different geographical regions.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached information wherein the set of geographically distributed cache servers serve different geographical regions (column 5, lines 5-12). Note that in the reference, the central cache can forward data based on any set of rules defined by the content provider. One of these rules is defined as geographical are served by the local cache.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the use of geographically distributed cache servers. Although the location of the cache servers is not explicitly stated in DeSimone et al. (USPN 5,787,470), it is advantageous to the system to distribute these cache servers geographically. By placing the cache geographically close to its intended users, the data transmission time is decreased thus improving overall performance.

16. Regarding claim 12, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 1) shows substantial features of the claimed invention, it fails to disclose means wherein the set of geographically distributed cache servers are distributed within a linguistically or culturally defined area.

Art Unit: 2153

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached information wherein the set of geographically distributed cache servers are distributed within a linguistically or culturally defined area (column 5, lines 5-12). Note that in the reference, the central cache can forward data based on any set of rules defined by the content provider. The example in the reference is a culturally defined area as well as a linguistically defined area.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the distribution of data according to cultural and linguistic boundaries. This benefits the system by caching data that is most likely to be of interest to the end user and avoiding the wasting of space of sending information that may not be comprehended by a majority of the end users.

17. Regarding claim 13, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 11) shows substantial features of the claimed invention, it fails to disclose means wherein the set of geographically distributed cache servers are distributed within a linguistically or culturally defined area encompassing the regions.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached information wherein the set of geographically distributed cache servers are distributed within a linguistically or culturally defined area encompassing the regions (column 5, lines 5-12). Note that in the reference, the central cache can forward data based on any set of rules defined by the content provider. The example in the reference is a culturally defined area as well as a linguistically defined area.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the distribution of data according to cultural and linguistic boundaries. This benefits the system by caching data that is most likely to be of interest to the end user and avoiding the wasting of space of sending information that may not be comprehended by a majority of the end users.

18. Regarding claim 14, DeSimone et al. (USPN 5,787,470) teach a system comprising:

- a. A set of distributed cache servers (figure 1; column 4, lines 27-30, 32-33, 38-44). Note that in the reference, a first cache keeps a record of what data has changed and forwards this to another cache and can distribute the cached data.
- b. Means for deriving Internet information derived in connection with the operation of one of the cache servers (figure 1; column 1, lines 30-35). Note that in the reference, the system uses a standard web cache with data being requested and cached as it is returned to the requesting user.
- c. Means for distributing the derived information to essentially all of the cache servers (figure 1; column 4, lines 27-30, 32-33, 38-44). Note that in the

reference, a first cache keeps a record of what data has changed and forwards this to another cache and can distribute the cached data.

Although the system disclosed by DeSimone et al. (USPN 5,787,470) shows substantial features of the claimed invention, it fails to disclose means wherein the set of distributed cache servers are geographically separated.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached data to geographically distributed servers (column 5, lines 5-12). Note that the distribution of data can be based on the location of the users and their cultural and linguistic characteristics.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the geographical distribution of data. The purpose of the invention is to increase the performance for end users by putting information on a cache directly connected to them in their route to retrieve data. Geographically distributing data allows for the least amount of physical distance between the end user and the cache thus benefiting the system by further reducing retrieval time.

19. Regarding claim 15, DeSimone et al. (USPN 5,787,470) teach all the limitations as applied to claim 14. They further teach means wherein the deriving means are arranged to derive the information in connection with the sending of the information from an Internet content

Art Unit: 2153

provider to an end user as a result off a specific information request by the end user, the end user being located in a geographical region served by the one of the cache servers (figure 1; column 1, lines 30-35). Note that in the reference, the system uses a standard web cache with data being requested and cached as it is returned to the requesting user. The caches are in the local user's ISP so they would be geographically local.

20. Regarding claim 16, DeSimone et al. (USPN 5,787,470) teach all the limitations as applied to claim 15. They further teach means wherein one of the cache servers is arranged to store the information (figure 1; column 1, lines 30-35). Note that in the reference, the system uses a standard web cache with data being requested and cached as it is returned to the requesting user. Cache servers as a rule store information.

21. Regarding claim 17, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 16) shows substantial features of the claimed invention, it fails to disclose means wherein one of the cache servers is arranged to store the information only if the content provider is located outside the region.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached data wherein one of the cache servers is arranged to store the information only if the content provider is located outside the region. (column 5, lines 5-12). Note that in the reference, the distribution of data can be done according

to any set of rules. The determination of when data will be geographically distributed can be changed and would be applicable in this situation.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the distribution of data only if the content provider is located outside the region. This allows for the most pertinent information to be cached and benefits the system by only using memory and cache function for data that can enjoy an appreciable increase in retrieval speed by being cached.

22. Regarding claim 18, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 16) shows substantial features of the claimed invention, it fails to disclose means wherein one of the cache servers is arranged to store the information only if the content provider is located inside the region.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached data wherein one of the cache servers is arranged to store the information only if the content provider is located inside the region (column 5, lines 5-12). Note that in the reference, the distribution of data can be done according to any set of rules. The determination of when data will be geographically distributed can be changed and would be applicable in this situation.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the distribution of data only if the content provider is located inside the region. This allows for the most pertinent information to be cached and benefits the system by only using memory and cache function for data that would most likely be of direct interest to the end user.

23. Regarding claim 19, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 15) shows substantial features of the claimed invention, it fails to disclose means wherein the distributing means are arranged to distribute the information to the set of caches servers only if the content provider is located outside the region.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached data wherein the distributing means are arranged to distribute the information to the set of caches servers only if the content provider is located outside the region (column 5, lines 5-12). Note that in the reference, the distribution of data can be done according to any set of rules. The determination of when data will be geographically distributed can be changed and would be applicable in this situation.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the distribution of data only if the content provider is

Art Unit: 2153

located outside the region. This allows for the most pertinent information to be cached and benefits the system by only using memory and cache function for data that can enjoy an appreciable increase in retrieval speed by being cached.

24. Regarding claim 20, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 15) shows substantial features of the claimed invention, it fails to disclose means wherein the distributing means are arranged to distribute the information to the set of caches servers only if the content provider is located inside the region.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached data with means wherein the distributing means are arranged to distribute the information to the set of caches servers only if the content provider is located inside the region (column 5, lines 5-12). Note that in the reference, the distribution of data can be done according to any set of rules. The determination of when data will be geographically distributed can be changed and would be applicable in this situation.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the distribution of data only if the content provider is located inside the region. This allows for the most pertinent information to be cached and benefits the system by only using memory and cache function for data that can enjoy an appreciable increase in retrieval speed by being cached.

25. Regarding claim 21, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 14) shows substantial features of the claimed invention, it fails to disclose means wherein the distributing means are arranged to distribute the information to the set of cache servers using multicast communication.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached information with means wherein the distributing means are arranged to distribute the information to the set of cache servers using multicast communication (column 5, lines 14-17). Note that in the reference, a multicast protocol is used to make sure the regional caches get synchronized information.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the use of multicast communications for the distribution of information. According to Armbruster et al. (USPN 6,243,760) multicast communication benefits the system by “ensuring accurate and synchronized delivery” to all destination servers (column 5, lines 17-18).

26. Regarding claim 22, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 21) shows substantial features of the claimed invention, it fails to disclose means wherein the distributing means are arranged to distribute the information to the set cache servers via a satellite link.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached information with means wherein the distributing means are arranged to distribute the information to the set cache servers via a satellite link (figure 2; column 2, lines 39-41).

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the use of satellite communications to distribute information. This provides the opportunity to distribute the information more easily overseas and to widely disparate areas. This benefits the system by allowing for the exchange of information regardless of the availability of telephone or other lines greatly increasing the geographic reach.

27. Regarding claim 23, DeSimone et al. (USPN 5,787,470) teach all the limitations as applied to claim 14. They further teach processing means for determining whether or not the derived information is to be distributed to the set of cache servers (figure 1; column 4, lines 27-30, 32-33, 38-44). Note that in the reference, a first cache keeps a record of what data has changed and forwards this to another cache and can distribute the cached data. The cached data is shared based on the previous requests of the other cache servers.

28. Regarding claim 24, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 14) shows substantial features of the claimed invention, it fails to disclose

means wherein the set of geographically distributed cache servers are arranged to serve different geographical regions.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached information wherein the set of geographically distributed cache servers are arranged to serve different geographical regions (column 5, lines 5-12). Note that in the reference, the central cache can forward data based on any set of rules defined by the content provider. One of these rules is defined as geographical are served by the local cache.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the use of geographically distributed cache servers. Although the location of the cache servers is not explicitly stated in DeSimone et al. (USPN 5,787,470), it is advantageous to the system to distribute these cache servers geographically. By placing the cache geographically close to its intended users, the data transmission time is decreased thus improving overall performance.

29. Regarding claim 25, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 14) shows substantial features of the claimed invention, it fails to disclose means wherein the set of geographically distributed cache servers are distributed within a linguistically or culturally defined area.

Art Unit: 2153

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached information wherein the set of geographically distributed cache servers are distributed within a linguistically or culturally defined area (column 5, lines 5-12). Note that in the reference, the central cache can forward data based on any set of rules defined by the content provider. The example in the reference is a culturally defined area as well as a linguistically defined area.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the distribution of data according to cultural and linguistic boundaries. This benefits the system by caching data that is most likely to be of interest to the end user and avoiding the wasting of space of sending information that may not be comprehended by a majority of the end users.

30. Regarding claim 26, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 24) shows substantial features of the claimed invention, it fails to disclose means wherein the set of geographically distributed cache servers are distributed within a linguistically or culturally defined area encompassing the regions.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached information wherein the set of geographically distributed cache servers are distributed within a linguistically or culturally defined area encompassing the regions (column 5, lines 5-12). Note that in the reference, the central cache can forward data based on any set of rules defined by the content provider. The example in the reference is a culturally defined area as well as a linguistically defined area.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the distribution of data according to cultural and linguistic boundaries. This benefits the system by caching data that is most likely to be of interest to the end user and avoiding the wasting of space of sending information that may not be comprehended by a majority of the end users.

31. Regarding claim 27, DeSimone et al. (USPN 5,787,470) teach a cache server in a geographic region generally used to service users in the region with means for:

- a. Deriving information sent by an Internet content provider to an end user located within the region as a result of an information request made by the end user (figure 1; column 1, lines 30-35). Note that in the reference, the system uses a standard web cache with data being requested and cached as it is returned to the requesting user.
- b. Distributing the information to a set of distributed cache servers, the servers preferably serving different geographical regions (figure 1; column 4, lines 27-30, 32-33, 38-44). Note that in the reference, a first cache keeps a record

of what data has changed and forwards this to another cache and can distribute the cached data.

Although the system disclosed by DeSimone et al. (USPN 5,787,470) shows substantial features of the claimed invention, it fails to disclose means wherein the set of distributed cache servers are geographically separated.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached data to geographically distributed servers (column 5, lines 5-12). Note that the distribution of data can be based on the location of the users and their cultural and linguistic characteristics.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the geographical distribution of data. The purpose of the invention is to increase the performance for end users by putting information on a cache directly connected to them in their route to retrieve data. Geographically distributing data allows for the least amount of physical distance between the end user and the cache thus benefiting the system by further reducing retrieval time.

32. Regarding claim 28, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 27) shows substantial features of the claimed invention, it fails to disclose

Art Unit: 2153

means wherein the set of geographically distributed cache servers are distributed within a linguistically or culturally defined area.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached information wherein the set of geographically distributed cache servers are distributed within a linguistically or culturally defined area (column 5, lines 5-12). Note that in the reference, the central cache can forward data based on any set of rules defined by the content provider. The example in the reference is a culturally defined area as well as a linguistically defined area.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the distribution of data according to cultural and linguistic boundaries. This benefits the system by caching data that is most likely to be of interest to the end user and avoiding the wasting of space of sending information that may not be comprehended by a majority of the end users.

33. Regarding claim 29, DeSimone et al. (USPN 5,787,470) teach all the limitations as applied to claim 27. They further teach processing means for determining whether or not the derived information is to be cached in the server (figure 1; column 4, lines 27-30, 32-33, 38-44). Note that in the reference, a first cache keeps a record of what data has changed and forwards

Art Unit: 2153

this to another cache and can distribute the cached data. The cached data is shared based on the previous requests of the other cache servers.

34. Regarding claim 30, DeSimone et al. (USPN 5,787,470) teach all the limitations as applied to claim 27. They further teach means for determining whether or not a specific piece of derived information is to be distributed to the set of geographically distributed cache servers (figure 1; column 4, lines 27-30, 32-33, 38-44). Note that in the reference, a first cache keeps a record of what data has changed and forwards this to another cache and can distribute the cached data. The cached data is shared based on the previous requests of the other cache servers.

35. Regarding claim 31, DeSimone et al. (USPN 5,787,470) teach all the limitations as applied to claim 29. They further teach means wherein decisions made by the processing means is based upon whether or not the content provider is located within the region (figure 1; column 4, lines 27-30, 32-33, 38-44). Note that in the reference, a first cache keeps a record of what data has changed and forwards this to another cache and can distribute the cached data. The cached data is shared based on the previous requests of the other cache servers.

36. Regarding claim 32, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 29) shows substantial features of the claimed invention, it fails to disclose means wherein the processing means is arranged to instruct the server to not cache the information and not distribute the information to the set of geographically distributed cache servers if the end user and the Internet content provider are both located within the same region as the server

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached data wherein the processing means is arranged to instruct the server to not cache the information and not distribute the information to the set of geographically distributed cache servers if the end user and the Internet content provider are both located within the same region as the server (column 5, lines 5-12). Note that in the reference, the distribution of data can be done according to any set of rules. The determination of when data will be geographically distributed can be changed and would be applicable in this situation.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the distribution of data only if the content provider is located outside the region. This allows for the most pertinent information to be cached and benefits the system by only using memory and cache function for data that can enjoy an appreciable increase in retrieval speed by being cached.

37. Regarding claim 33, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 29) shows substantial features of the claimed invention, it fails to disclose means wherein the processing means is arranged to instruct the server to cache the information and to not distribute the information to the set of geographically distributed cache servers if the Internet content provider is located within the same region as the server.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached data wherein the processing means is arranged to instruct the server to cache the information and to not distribute the information to the set of geographically distributed cache servers if the Internet content provider is located within the same region as the server (column 5, lines 5-12). Note that in the reference, the distribution of data can be done according to any set of rules. The determination of when data will be geographically distributed can be changed and would be applicable in this situation.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the distribution of data only if the content provider is located inside the region. This allows for the most pertinent information to be cached and benefits the system by only using memory and cache function for data that would most likely be of direct interest to the end user.

38. Regarding claim 34, although the system disclosed by DeSimone et al. (USPN 5,787,470) (as applied to claim 29) shows substantial features of the claimed invention, it fails to disclose means wherein the processing means is arranged to instruct the server to not cache the information but instead only distribute the information to the set of geographically distributed cache servers if the Internet content provider is located within the same region as the server.

Art Unit: 2153

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by DeSimone et al. (USPN 5,787,470), as evidenced by Armbruster et al. (USPN 6,243,760).

In an analogous art, Armbruster et al. (USPN 6,243,760) discloses a system for improving web performance by distributing cached data wherein the processing means is arranged to instruct the server to not cache the information but instead only distribute the information to the set of geographically distributed cache servers if the Internet content provider is located within the same region as the server (column 5, lines 5-12). Note that in the reference, the distribution of data can be done according to any set of rules. The determination of when data will be geographically distributed can be changed and would be applicable in this situation.

Given the teaching of Armbruster et al. (USPN 6,243,760), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying DeSimone et al. (USPN 5,787,470) by employing the distribution of data only if the content provider is located inside the region. This allows for the most pertinent information to be cached and benefits the system by only using memory and cache function for data that would most likely be of direct interest to the end user.

Conclusion

39. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see the following:

- a. Banga et al. (USPN 5,931,904) – System for improved web performance by locale caching portions of Internet retrieved information.

Art Unit: 2153

- b. DeSimone et al. (USPN 6,138,141) – System for improved web performance using local cache servers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Parton whose telephone number is (703)306-0543. The examiner can normally be reached on M-F 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (703)305-4792. The fax phone numbers for the organization where this application or proceeding is assigned are (703)746-9242 for regular communications and (703)746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Kevin Parton
Examiner
Art Unit 2153

ksp
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